

0055934

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B01-059 H1448



RFW LOT # : 0167L265

CLIENT ID	RFW #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
B125Y8	001	W	01LVX216	07/02/01	07/06/01	N/A	07/09/01
B12601	002	W	01LVX216	07/02/01	07/06/01	N/A	07/09/01
B12601	002 MS	W	01LVX216	07/02/01	07/06/01	N/A	07/09/01
B12601	002 MSD	W	01LVX216	07/02/01	07/06/01	N/A	07/09/01
LAB QC:							
VBLKGE	MB1	W	01LVX216	N/A	N/A	N/A	07/09/01
VBLKGE	MB1 BS	W	01LVX216	N/A	N/A	N/A	07/09/01

07-31-01

RECEIVED
NOV 15 2001

EDMC





Analytical Report

Client: TNU-HANFORD B01-059
RFW #: 0107L265
SDG/SAF #: H1448/B01-059

W.O. #: 11343-606-001-9999-00
Date Received: 07-06-01

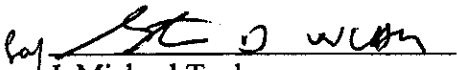
GC/MS VOLATILE

The set of samples consisted of two (2) water samples collected on 07-02-01.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8260A for TCL Volatile target compounds on 07-09-01.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The samples were analyzed within required holding time.
3. Non-target compounds were not detected in the samples.
4. All surrogate recoveries were within EPA QC limits.
5. All matrix spike recoveries were within EPA QC limits.
6. All RPDs were within EPA QC limits.
7. All blank spike recoveries were within EPA QC limits.
8. The method blank contained the common laboratory contaminant Methylene Chloride at a level less than 2x the CRQL.
9. Internal standard area and retention time criteria were met.
10. "I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."


J. Michael Taylor
President
Lionville Laboratory Incorporated

08-09-01
Date

som&pef\group\data\voa\tnu-hanford\0107-265.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 10 pages.

GLOSSARY OF VOA DATA

DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quantitation modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quantitation modifications:

- MP** - Missed Peak: manually added peak not found by automatic quantitation program.
- PA** - Peak Assignment: quantitation report was changed to reflect correct peak assignment.
- RI** - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP** - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB** - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI** - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Volatiles by GC/MS, HSL List

Report Date: 07/30/01 22:09

RFW Batch Number: 0107L265

Client: **TNUHANFORD B01-059 H1413** Work Order: 11343606001 Page: 1a

H1448

	Cust ID:	B125Y8	B12601	B12601	B12601	VBLKGE	VBLKGE BS
Sample Information	RFW#:	001	002	002 MS	002 MSD	01LVX216-MB1	01LVX216-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Toluene-d8		106 %	98 %	103 %	104 %	97 %	100 %
Surrogate Bromofluorobenzene		114 %	113 %	112 %	110 %	114 %	114 %
Recovery 1,2-Dichloroethane-d4		96 %	99 %	102 %	100 %	99 %	96 %
=====fl=====fl=====fl=====fl=====fl=====fl=====							
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		17 B	3 JB	4 JB	5 JB	9	14 B
Acetone		10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		5 U	5 U	79 %	80 %	5 U	80 %
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene		5 U	5 U	103 %	102 %	5 U	101 %
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Benzene		5 U	5 U	106 %	105 %	5 U	106 %
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Toluene		5 U	5 U	108 %	107 %	5 U	107 %

*= Outside of EPA CLP QC limits.

7-31-01

RfW Batch Number: 0107L265

Client: TNUHANFORD B01-059

H14481
H1413

Work Order: 11343606001

Page: 1b

Cust ID:

B125Y8

B12601

B12601

B12601

VBLKGE

VBLKGE BS

RfW#:

001

002

002 MS

002 MSD

01LVX216-MB1

01LVX216-MB1

Chlorobenzene	5 U	5 U	112 %	111 %	5 U	111 %
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

0107L265

Custody Transfer Record/Lab Work Request Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

6 Gcm³

Client <u>TNU-Hanford Bol-059</u>				Refrigerator # <u>1</u>																				
Est. Final Proj. Sampling Date _____				#/Type Container		Liquid	<u>18g</u>																	
Project # <u>11343-606-001-9999-00</u>						Solid																		
Project Contact/Phone # _____				Volume		Liquid	<u>40</u>																	
Lionville Laboratory Project Manager <u>OJ</u>						Solid																		
QC <u>Spec</u> Del <u>Std</u> TAT <u>30 day</u>				Preservatives		<u>-</u>																		
Date Rec'd <u>7-6-01</u> <u>7-10-01</u>				Date Due <u>8-5-01</u> <u>7-16-01</u>		ANALYSES REQUESTED →				ORGANIC				INORG										
						VOA	BNA	Pest/PCB	Herb					Metal	CN									
						Lionville Laboratory Use Only																		
MATRIX CODES:				Lab ID	Client ID/Description	Matrix QC Chosen (✓)	Matrix	Date Collected	Time Collected															
S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish						MS MSD																		
				<u>001</u>	<u>B12548</u>		<u>W</u>	<u>7-2-01</u>	<u>0330</u>	<u>✓</u>														
				<u>002</u>	<u>B12601</u>		<u>I</u>	<u>1</u>	<u>2345</u>	<u>✓</u>														

Special Instructions: Bol-059Run Matrix QC

DATE/REVISIONS:

1. Belog of 0107L239-002, 0017-16-01 2 Rec'd date = 7/16/01

3. _____

4. _____

5. _____

6. _____

Relinquished by	Received by	Date	Time
<u>Belog</u>	<u>J. Koppel</u>	<u>06</u> <u>7-16-01</u>	<u>-</u>

Relinquished by	Received by	Date	Time
<u>COMPOSITE</u> <u>WASTE</u>	<u>ORIGINAL</u> <u>REWRITTEN</u>		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Lionville Laboratory Use Only

Samples were:

1) Shipped _____ or
Hand Delivered _____
Airbill # _____

2) Ambient or Chilled
3) Received in Good Condition Y or N

4) Samples Properly Preserved Y or N

5) Received Within Holding Times Y or N

Tamper Resistant Seal was:

1) Present on Outer Package Y or N

2) Unbroken on Outer Package Y or N

3) Present on Sample Y or N

4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec'd Y or N

Cooler Temp. _____ °C

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B01-058-5 Page 1 of 1						
Collector Thomas G./Watson D.		Company Contact Todd, M.E.		Telephone No. (509) 372-9631		Project Coordinator TRENT, SJ		Price Code 8N ⁶⁵⁹ Data Turnaround 45 Days						
Project Designation 200-TW-1 & 2 - Soil Sampling		Sampling Location T-26/200 W		SAF No. B01-058		Air Quality <input type="checkbox"/>								
Ice Chest No. ERC 46-034		Field Logbook No. EL-1518		COA B20TW1A44C		Method of Shipment ^{05/02/01} Government Vehicle/Fed EX								
Shipped To ^{RT 7.501} Sovereign Term Incorporated RECRA		Offsite Property No. A 010311		Bill of Lading/Air Bill No. 42557954-5579										
POSSIBLE SAMPLE HAZARDS/REMARKS Radioactive ^{COUNTS BACKGROUND ON S&P IT SPON} Special Handling and/or Storage Samples stored in Ref. # 1A at the 3728 Shipping Facility on 7/2/01 . Collector not available to relinquish samples on 7/5/01 for shipment. ^{RT 7.501} SAMPLE ANALYSIS				Preservation		Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	Cool 4C
				Type of Container		aG	aG	aG	aG	aG	None	None	None	aG
				No. of Container(s)		1	1	1	1	1	1	1	1	1
				Volume		120mL	60mL	250mL	60mL	250mL	120mL	250mL	60mL	40mL
				See item (1) in Special Instructions.	Chromium Hex - 7196	See item (2) in Special Instructions.	VOA - 8260A (TCL)	See item (3) in Special Instructions.	See item (4) in Special Instructions.	See item (5) in Special Instructions.	Activity Scan		VOA - 8260A (TCL)	
				Tie to										
Sample No.	Matrix *	Sample Date	Sample Time											
B125X5 - Batch 0107239	SOIL	7/2/01	0330	X	X	X	X	X		X	X		B12535 B12637	
B125Y8 (TRIP BLANK)	WATER	7/2/01	0330										X	
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS						Matrix *				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010A (TAL) (Cadmium, Chromium, Copper, Nickel, Silver); ICP Metals - 6010A (Add-on) (Bismuth, Lead); Mercury - 7470 - (CV) (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate); Ammonia - 350.1; NO2/NO3 - 353.1; Total Cyanide - 9010; TOC - 9060; pH (Soil) - 9045 (3) Semi-VOA - 8270A (Add-On) (Tributyl phosphate); TPH-Diesel Range - WTPH-D (4) ICP Metals - 6010TR (Client List) (Aluminum, Bismuth, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc) (5) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Radium-226, Radium-228); Isotopic Plutonium; Isotopic Thorium (Thorium-232); Americium-241; Carbon-14; Neptunium-237; Nickel-63; Strontium-89,90 = Total SF; Technetium-99; Total Uranium; Tritium-HD; Isotopic Uranium <div style="text-align: right;">RT 7.5.01</div>						
Greg Thomas / Greg Thomas		7/2/01 0830		Ref 1A 3728		7/2/01 0830								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
Ref 1A 3728		7.5.01 1130		RT Thomas		7.5.01 1130								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
RT Thomas		7.5.01 1130		J. Edwards		7.5.01 1130								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
Med Ex		7.6.01 1025		J. Edwards		7.6.01 1025								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
LABORATORY SECTION		Received By		Title				Date/Time						
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time						

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B01-058-19 Page 1 of 1							
Collector Thomas G./Watson D.		Company Contact Todd, M.E.		Telephone No. (509) 372-9631		Project Coordinator TRENT, SJ		Price Code 8N 059	Data Turnaround 45 Days						
Project Designation 200-TW-1 & 2 - Soil Sampling		Sampling Location T-26/200 W		SAF No. B01-058		Air Quality <input type="checkbox"/>									
Ice Chest No. ERC 96-034		Field Logbook No. EL-1518		COA B20TW1A44C		Method of Shipment Fed EX									
Shipped To TMA/RECRA		Offsite Property No. A-10311		Bill of Lading/Air Bill No. 42357984-5579											
POSSIBLE SAMPLE HAZARDS/REMARKS Radioactive BACKGROUND COUNTS ON SPLIT SAM ≤ 0.5 mR/hr DOSE				Preservation		Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	Cool 4C			
Special Handling and/or Storage				Type of Container		aG	aG	aG	aG	aG	aG	aG			
				No. of Container(s)		1	1	1	1	1	1	1	1		
				Volume		500mL	1000mL	120mL	500mL	500mL	1000mL	40mL			
SAMPLE ANALYSIS				See item (1) in Special Instructions.		See item (2) in Special Instructions.		VOA - 8260A (TCL)		See item (3) in Special Instructions.		See item (4) in Special Instructions.		See item (5) in Special Instructions.	
Sample No.		Matrix *		Sample Date		Sample Time									
B125Y9		SOIL		07-02-01		2345		X		X		X		X	
B12601		Water		07-02-01		2345								RT 7.5.01	
B12601		WATER		07-02-01		2345								X	
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		<p>(1) ICP Metals - 6010A (TAL) {Cadmium, Chromium, Copper, Nickel, Silver}; ICP Metals - 6010A (Add-on) {Bismuth, Lead}; Mercury - 7470 - (CV); Chromium Hex - 7196</p> <p>(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}; Ammonia - 350.3; NO2/NO3 - 353.1; Total Cyanide - 9010; TOC - 9060; pH (Soil) - 9045</p> <p>(3) Semi-VOA - 8270A (Add-On) {Tributyl phosphate}; TPH-Diesel Range - WTPH-D</p> <p>(4) ICP Metals - 6010A (Client List) {Aluminum, Bismuth, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}</p> <p>(5) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add on {Radium-226, Radium-228}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Americium-241; Carbon-14; Neptunium-237; Nickel-63; Strontium-89,90 - Total Sr; Technetium-99; Total Uranium; Tritium - H3; Isotopic Uranium</p> <p>Samples stored in Ref. # 10 at the 3728 Shipping Facility on 7/5/01.</p> <p>Collector not available to relinquish samples on 7/5/01 for shipment</p>				8=Soil			
Greg Thomas/Arac Thomas		7/3/01		Ref IB 3128		7/3/01						8B=Bediment			
Ref IB 3128		7.5.01		Ref IB 3128		7.5.01						8C=Solid			
Ref IB 3128		7.5.01		Ref IB 3128		7.5.01						8D=Drum Solids			
Ref IB 3128		7.5.01		Ref IB 3128		7.5.01						8E=Drum Liquids			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						8F=Tissue			
D. Ex		7.6.01/025		D. Ex		7.6.01/025						8G=Wipe			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						8H=Liquid			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						8I=Vegetation			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						8J=Other			
LABORATORY SECTION		Received By		Title											
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time							